

CLAIMS

What is claimed is:

1. An osmotic delivery device comprising:
a reservoir having at least one drug delivery orifice;
an osmotic composition contained within the reservoir;
a drug formulation contained within the reservoir; and
a preloaded membrane comprising a semipermeable material and a liquid filler material contained within the semipermeable material, wherein the preloaded membrane is configured to allow a fluid to pass from an environment surrounding the reservoir into the osmotic composition.
2. The osmotic delivery device of claim 1, further comprising a slidable partition disposed within the reservoir between the osmotic composition and the drug formulation.
3. The osmotic delivery device of claim 1, further comprising a second filler material distributed around the osmotic composition within the reservoir.
4. The osmotic delivery device of claim 3, wherein the second filler material comprises a composition that is substantially the same as a composition of the liquid filler material of the preloaded membrane.
5. The osmotic delivery device of claim 3, wherein the semipermeable material of the preloaded membrane contains a sufficient amount of the liquid filler material such that the osmotic delivery device is configured to exhibit an average start-up time that is at least 10% less than the start-up time of an osmotic delivery device without a preloaded membrane.

6. The osmotic delivery device of claim 5, wherein the semipermeable material of the preloaded membrane contains a sufficient amount of the liquid filler material such that the osmotic delivery device is configured to exhibit an average start-up time that is at least 25% less than the start-up time of an osmotic delivery device without a preloaded membrane.

7. The osmotic delivery device of claim 6, wherein the semipermeable material of the preloaded membrane contains a sufficient amount of the liquid filler material such that the osmotic delivery device is configured to exhibit an average start-up time that is at least 50% less than the start-up time of an osmotic delivery device without a preloaded membrane.

8. The osmotic delivery device of claim 1, wherein the semipermeable material of the preloaded membrane contains a sufficient amount of the liquid filler material such that the osmotic delivery device is configured to exhibit an average start-up time that is at least less than 3% of a desired duration of drug delivery for the osmotic delivery device.

9. The osmotic delivery device of claim 8, wherein the semipermeable material of the preloaded membrane contains a sufficient amount of the liquid filler material such that the osmotic delivery device is configured to exhibit an average start-up time that is at least less than 2% of a desired duration of drug delivery for the osmotic delivery device.

10. The osmotic delivery device of claim 9, wherein the semipermeable material of the preloaded membrane contains a sufficient amount of the liquid filler material such that the osmotic delivery device is configured to exhibit an average start-up time that is at least less than 1% of a desired duration of drug delivery for the osmotic delivery device.

11. The osmotic delivery device of claim 1, wherein the semipermeable material of the preloaded membrane is saturated with the liquid filler material.

12. The osmotic delivery device of claim 1, wherein the liquid filler material comprises at least one of a polyethylene glycol, a propylene glycol, a dimethyl sulfoxide, and an organic liquid.

13. The osmotic delivery device of claim 1, wherein the liquid filler material comprises at least two different liquid filler materials.

14. The osmotic delivery device of claim 1, wherein the preloaded membrane comprises a plug that is positioned within an opening in the reservoir.

15. An osmotic delivery device comprising:
a reservoir having at least one drug delivery orifice;
an osmotic composition contained within the reservoir;
a drug formulation contained within the reservoir; and
a preloaded membrane comprising a semipermeable material and a liquid filler material contained within the semipermeable material, wherein the preloaded membrane is configured as a plug that is positioned within an opening in the reservoir, and wherein the liquid filler material comprises at least one of a polyethylene glycol, a propylene glycol, a dimethyl sulfoxide, and an organic liquid.

16. A method of reducing the delivery start-up time of an osmotic delivery device comprising:
providing a reservoir having at least one drug delivery orifice;
disposing an osmotic composition within the reservoir;
disposing a drug formulation within the reservoir;
preloading a membrane comprising a semipermeable material with a liquid filler material; and
associating the membrane with the reservoir such that the membrane is configured to allow a fluid to pass from an environment surrounding the reservoir into the osmotic composition.

17. The method of claim 16, further comprising disposing a slidable partition within the reservoir between the osmotic composition and the drug formulation.

18. The method of claim 16, further comprising distributing a second filler material around the osmotic composition within the reservoir.

19. The method of claim 18, further comprising selecting the second filler material to comprise a composition that is substantially the same as a composition of the liquid filler material of the membrane.

20. The method of claim 18, wherein preloading the membrane comprises exposing the semipermeable material of the membrane to conditions that allow adsorption of a sufficient amount of the liquid filler material to reduce the average start-up time of the osmotic delivery device at least 10% relative to an osmotic delivery device wherein the membrane has not been preloaded.

21. The method of claim 20, wherein preloading the membrane comprises exposing the semipermeable material of the membrane to conditions that allow adsorption of a sufficient amount of the liquid filler material to reduce the average start-up time of the osmotic delivery device at least 25% relative to an osmotic delivery device wherein the membrane has not been preloaded.

22. The method of claim 21, wherein preloading the membrane comprises exposing the semipermeable material of the membrane to conditions that allow adsorption of a sufficient amount of the liquid filler material to reduce the average start-up time of the osmotic delivery device at least 50% relative to an osmotic delivery device wherein the membrane has not been preloaded.

23. The method of claim 16, wherein preloading the membrane comprises preloading the semipermeable material of the membrane with an amount of liquid filler material sufficient to provide an average start-up time that is at least less than 3% than a desired duration of drug delivery for the osmotic delivery device.

24. The method of claim 23, wherein preloading the membrane comprises preloading the semipermeable material of the membrane with an amount of liquid filler material sufficient to provide an average start-up time that is at least less than 2% than a desired duration of drug delivery for the osmotic delivery device.

25. The method of claim 24, wherein preloading the membrane comprises preloading the semipermeable material of the membrane with an amount of liquid filler material sufficient to provide an average start-up time that is at least less than 1% than a desired duration of drug delivery for the osmotic delivery device.

26. The method of claim 16, wherein preloading the membrane comprises saturating the semipermeable material of the membrane with the liquid filler material.

27. The method of claim 16, further comprising selecting the liquid filler material to comprise at least one of a polyethylene glycol, a propylene glycol, a dimethyl sulfoxide, and an organic liquid.

28. The method of claim 16, wherein preloading the membrane comprises preloading the membrane with at least two different liquid filler materials.

29. The method of claim 16, wherein associating the membrane with the reservoir comprises inserting the membrane into an opening within the reservoir.

30. The method of claim 16, further comprising preloading the membrane with the liquid filler material prior to associating the membrane with the reservoir.

31. The method of claim 16, wherein preloading the membrane with the liquid filler material comprises immersing at least a portion of the semipermeable material of the membrane in an amount of the liquid filler material.